



# Add Health

The National Longitudinal Study of Adolescent to Adult Health

## How to Obtain Add Health OMICs Data

02/11/19

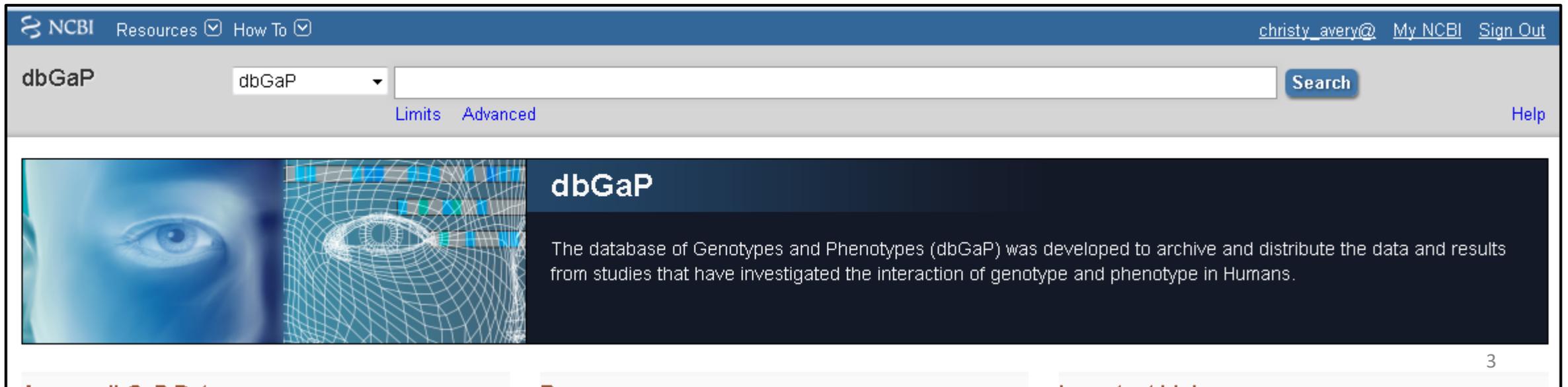
[addhealth\\_genetics@unc.edu](mailto:addhealth_genetics@unc.edu)

# Overview: How to Access Add Health GWAS Data

- The goal of NIH/NICHD-funded grant R03HD097630 (MPIs: Mullan Harris, Avery) is to develop research tools to enable widespread access and use of Add Health genomics (e.g. GWAS, exome etc.) data. This slide set provides tailored instruction in how to access Add Health genomics data.
- **Note**: Add Health phenotype data are available through: <https://www.cpc.unc.edu/projects/addhealth/contracts>.
  - See accompanying slide set on accessing additional phenotype data.

# dbGaP: NIH Genomics Warehouse

- Add Health GWAS data and accompanying documentation are available from the NIH-sanctioned database of Genotypes and Phenotypes ([dbGaP](https://www.ncbi.nlm.nih.gov/gap)), a repository for archiving, curating, and distributing GWAS data. <https://www.ncbi.nlm.nih.gov/gap>



The screenshot shows the top navigation bar of the NCBI website with links for Resources and How To. The user is logged in as christy\_avery@. The main search area features a search bar with 'dbGaP' entered, a search button, and links for Limits and Advanced search. Below the search bar is a banner image with a stylized eye and a grid pattern, followed by the dbGaP logo and a description of the database's purpose.

NCBI Resources How To christy\_avery@ My NCBI Sign Out

dbGaP dbGaP Search

Limits Advanced Help

**dbGaP**

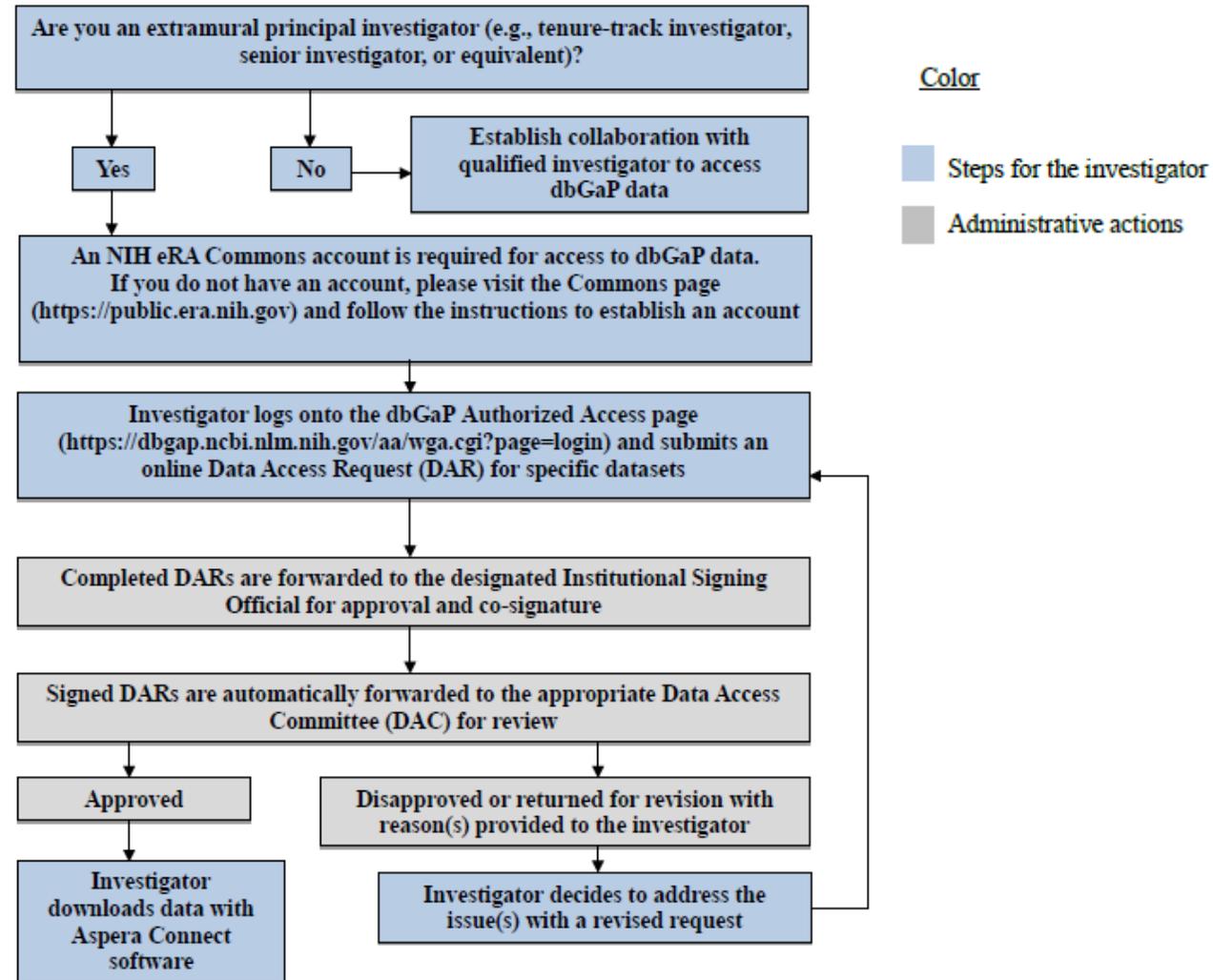
The database of Genotypes and Phenotypes (dbGaP) was developed to archive and distribute the data and results from studies that have investigated the interaction of genotype and phenotype in Humans.

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# Who can Apply for Data Through dbGaP?

- **Non-NIH investigators (i.e. Extramural investigators)**
  - Extramural Investigators must be permanent employees of their institution at a level equivalent to a tenure-track professor or senior scientist with responsibilities that most likely include laboratory administration and oversight. Laboratory staff and trainees such as graduate students and postdoctoral fellows are not permitted to submit dbGaP project requests.
- **NIH Investigators:**
  - NIH Intramural Investigators must be tenure-track investigators, senior investigators, senior scientists, senior clinicians, or staff scientists.
  - NIH extramural scientific staff must have administrative responsibility for the data; have substantial research involvement in the award that generated the data; or need access to carry out research unrelated to their portfolio management responsibilities.

# Overview of Process Investigators to Access Datasets in dbGaP



# First Step: Obtain an eRA Commons Account

- To log into dbGap and request access to controlled-access datasets, you must have an **eRA Commons** account (<https://era.nih.gov/commons-account-information.cfm>).
- If you do not have a pre-existing account, register here: [https://era.nih.gov/reg\\_accounts/register\\_commons.cfm](https://era.nih.gov/reg_accounts/register_commons.cfm).



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# Identify Add Health GWAS Data and Request Access

- Add Health study accession number: phs001367.v1.p1

NCBI Resources How To My NCBI Sign In

**dbGaP**  
GENOTYPES and PHENOTYPES

**Add Health: Longitudinal Study of a Nationally Representative Sample of Adolescents in Grades 7-12 in the United States during the 1994-95 School Year, Followed into Adulthood with Five Interviews/Surveys in 1995, 1996, 2001-02, 2008, and 2016-18.**

**dbGaP Study Accession:** phs001367.v1.p1

Request Access

Show BioProject list

Study Variables Documents Analyses Datasets Molecular Data

Jump to: [Authorized Access](#) | [Attribution](#) | [Authorized Requests](#)

Search Within This Study

# A Completed dbGaP Application:

- Is identified by a Data Access Request (DAR) number and a project number
- Is project-specific. Approval for one project does not carry over to a new project.
- Requires the applicant to review and agree to terms, conditions, and statements of the Add Health Data Use Certification Agreement (October 27, 2015 version, which is currently being updated).

# Information Needed for dbGaP Application

- Research statement and nontechnical summary statement describing your planned use of the data specific to your project
- Name of the institutional signing official
- A list of internal investigators at your institution who will share access to the data
- A list of external collaborating investigators
- The name of the information technology (IT) director
- Local Institutional Review Board (IRB) approval.

# dbGaP Approved User Code of Conduct

- Investigator(s) will use requested datasets solely in connection with the research project described in the approved Data Access Request for each dataset;
- Investigator(s) will make no attempt to identify or contact individual participants from whom these data were collected without appropriate approvals from the relevant IRBs;
- Investigator(s) will not distribute these data to any entity or individual beyond those specified in the approved Data Access Request;
- Investigator(s) will adhere to computer security practices that ensure that only authorized individuals can gain access to data files;
- Investigator(s) will not submit for publication or any other form of public dissemination analyses or other reports on work using or referencing NIH datasets prior to the embargo release date listed for the dataset (or dataset version) on dbGaP;
- Investigator(s) acknowledge the Intellectual Property Policies as specified in the Data Use Certification; and,
- Investigator(s) will report any inadvertent data release in accordance with the terms in the Data Use Certification, breach of data security, or other data management incidents contrary to the terms of data access

# Begin New Research Project

NCBI Site map All databases PubMed Search

dbGaP genotypes and phenotypes Browse/Search Authorized Access Help

Logged in as Christy Avery | Log out

Beacon Data Browser My Projects My Requests Downloads Downloaders My Profile

## My Research Project

### General Instructions

- This application will automatically generate a Data Access Request (DAR) number and a project number. Please keep track of this number for future communications with dbGaP and relevant Data Access Committee(s) (DAC)
- A completed request for data access includes this form as well as a review of and agreement to the terms, conditions, and statements in the Data Use Certification (DUC) for each respective dataset requested.
- Dataset requests are project-specific. If you were granted access to a dataset(s) for another project, that approval does not carry over to this new proposed project. You must request access to all datasets that you plan to use in the new project.
- Please note that fields marked as "\*" are required fields.

### Before You Get Started

In order to complete the application for data access you will need to collect the following information:

- A research statement and a nontechnical summary statement describing your planned use of the data.
- The name of the institutional signing official who will certify the terms of use assurances on behalf of your institution.
- A list of all internal investigators at your institution who will share access to the data for the proposed research.
- A list of external collaborating investigators.
- The name of the information technology (IT) Director.
- Some datasets may require local Institutional Review Board (IRB) approval for use. These are noted in the study list. Please check the individual study pages in dbGaP for these additional requirements.
- Some datasets may require supplemental documentation to accompany this standard application. Review the DUC\* instruction pages for detailed information about how to prepare these materials in a single PDF file.

\* You can navigate to each study DUC from the public study home page in dbGaP. Look for the "individual-level data" section.

### dbGaP APPROVED USER CODE OF CONDUCT

The following is the Code of Conduct that research investigators agree to abide by as Approved Users of data received through the database of Genotypes and Phenotypes (dbGaP). Failure to abide by any term within this Code of Conduct may result in revocation of approved access to any or all datasets obtained through dbGaP.

The elements of the NIH Code of Conduct for Data Use include:

1. Investigator(s) will use requested datasets solely in connection with the research project described in the approved Data Access Request for each dataset;
2. Investigator(s) will make no attempt to identify or contact individual participants from whom these data were collected without appropriate approvals from the relevant IRBs;
3. Investigator(s) will not distribute these data to any entity or individual beyond those specified in the approved Data Access Request;
4. Investigator(s) will adhere to computer security practices that ensure that only authorized individuals can gain access to data files;
5. Investigator(s) will not submit for publication or any other form of public dissemination analyses or other reports on work using or referencing NIH datasets prior to the embargo release date listed for the dataset (or dataset version) on dbGaP;
6. Investigator(s) acknowledge the Intellectual Property Policies as specified in the Data Use Certification; and,
7. Investigator(s) will report any inadvertent data release in accordance with the terms in the Data Use Certification, breach of data security, or other data management incidents contrary to the terms of data access.

[Begin New Research Project](#)

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[Privacy Notice](#) | [Disclaimer](#) | [Accessibility](#)



# Accessing New OMICs Files

- Note that the study accession number, phs001367.v1.p1, indexes the version
- New versions are created when new data are uploaded (e.g. exome chip data per R01HD057194). Add Health users with an active dbGaP contract will be alerted to new releases and granted access to newly available data.

## Project Request

+ [OMB control number: 0925-0670](#) [Expiration date: 03/31/2019](#)

[Research Project](#) | [Cloud Providers](#) | [Collaborators](#) | [IT Director](#) | [Confirm Datasets](#) | [Review DUC](#) | [Review DUL](#) | [Review Applications](#) | [Feedback](#)

Please select datasets to request access to. If you have changed any common information (research statement, list of collaborators), all approved application and those being reviewed by DAC(s) will need to be resubmitted. For any study that has more than one consent group, there are no overlaps in subjects between the consent groups.

Filter Consents

Primary disease  Molecular data type  Study design

Approved for GRU  Approved for commercial use  Approved for method development  Health biomedical research

Study lookup enter study accession  Study accession   Exclude IRB required

Consent Group	Data Use Limitations	Participants	DAR Status
<input checked="" type="checkbox"/> <a href="#">Add Health: The National Longitudinal Study of Adolescent to Adult Health (Add Health)</a> (pht001367.v1.p1)			
<input checked="" type="checkbox"/> <a href="#">General Research Use (IRB, PUB, GSO)</a> (pht001367.v1.p1.c1), <a href="#">NICHD</a>	Use of the data is limited only by the terms of the model Data Use Certification. Requestor must provide documentation of local IRB approval. Requestor agrees to make results of studies using the data available to the larger scientific community. Use of the data is limited to genetic studies only. . <b>This consent group requires IRB approval attachment</b>	9974	

Study accession for preview:    
This input box is only for study investigators of studies that are currently in preview status. If you are a data submitter, please input the study accession.

# Prepare and Enter/Identify Your Title, Research Use Statement, Summary, and Signing Official

dbGaP: Authorized Access: Proj X

https://dbgap.ncbi.nlm.nih.gov/aa/wga.cgi?

NCBI Site map All databases PubMed Search

db GaP genotypes and phenotypes Browse/Search Authorized Access Help

Beacon Data Browser My Projects My Requests Downloads Downloaders My Profile

Project Request

#20018: SO: + OMB control number: 0925-0670 Expiration date: 03/31/2019

Project Details Choose Datasets Research Project Cloud Providers Collaborators IT Director Confirm Datasets Review DUC Review DUL Review Applications Feedback

**\*Descriptive Title of Project**  
Please note that coordinated requests by collaborating institutions should each use the same title.

**\*Research Use Statement (RUS)**  
A RUS is a brief description of the applicant's proposed use of dbGaP dataset(s). The RUS will be reviewed by all NIH Institutes and Centers responsible for data covered by this Data Access Request. Please note that if access is approved, you agree that the RUS, along with your name and institution, will be included on the dbGaP website to describe your research project to the public.  
Please make it clear whether you plan to combine requested datasets with other datasets outside of dbGaP, and, if so, whether you plan to analyze these datasets independently or together. If you do plan to combine datasets in any way, please describe your plan and also please discuss whether it creates any additional risks to participants. If you are focusing on outcomes or hypotheses that were not the focus of the primary study (or studies), please describe the outcomes you propose to examine.  
Investigators do not need to submit a new project request unless the dataset will be used for research outside of the scope of the approved Research Use Statement  
Please enter your RUS in the area below. The RUS should be one or two paragraphs in length and include research objectives, the study design, and an analysis plan (including the phenotypic characteristics that will be tested for association with genetic variants). If you are requesting multiple datasets, please describe how you will use them. Examples of RUS can be found at [GDS website](#). Please limit your RUS to 4500 characters.

I am requesting permission to use cloud computing to carry out the research as described in my Research Use Statement.

**\*Non-technical summary**  
Please enter below a non-technical summary of your RUS suitable for understanding by the general public (written at a high school reading level or below). Please limit your non-technical summary to 1300 characters.

**\*Choose your Signing Official (SO):**  
Your SO is typically the same person who signs your grant applications and is an individual listed in eRA Commons as a SO for your institution and who has the authority to certify your application on behalf of your institution.

Copy and paste your Research Use Statement and non-technical summary below. All applications must be made in English.

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# Cloud Computing

## \*Research Use Statement (RUS)

A RUS is a brief description of the applicant's proposed use of dbGaP dataset(s). The RUS will be reviewed by all NIH Institutes and Centers responsible for data covered by this Data Access Request. Please note that if access is approved, you agree that the RUS, along with your name and institution, will be included on the dbGaP website to describe your research project to the public.

Please make it clear whether you plan to combine requested datasets with other datasets outside of dbGaP, and, if so, whether you plan to analyze these datasets independently or together. If you do plan to combine datasets in any way, please describe your plan and also please discuss whether it creates any additional risks to participants. If you are focusing on outcomes or hypotheses that were not the focus of the primary study (or studies), please describe the outcomes you propose to examine.

Investigators do not need to submit a new project request unless the dataset will be used for research outside of the scope of the approved Research Use Statement

Please enter your RUS in the area below. The RUS should be one or two paragraphs in length and include research objectives, the study design, and an analysis plan (including the phenotypic characteristics that will be tested for association with genetic variants). If you are requesting multiple datasets, please describe how you will use them. Examples of RUS can be found at [GDS website](#). Please limit your RUS to 4500 characters.

I am requesting permission to use cloud computing to carry out the research as described in my Research Use Statement.

- Add Health investigators are currently investigating the feasibility of providing users with virtual machine templates that meet required security protocols when using cloud computing.
- Until these security templates are available, required data security standards for remote compute servers are available here (see section for compute server, not file server):
  - <https://www.cpc.unc.edu/research/tools/datasecurity/how-to-secure-a-server>
- Outside of the security templates, the Add Health study cannot support costs associated with cloud data storage or analysis.

# Do Not Forget Your Decryption Password You Will Need it When You Retrieve the Repository Key!

## Create Decryption Password.

The files distributed through the dbGaP system are encrypted. A password is required for decrypting downloaded files. Please provide a decryption password for the project. Valid passwords must be at least 8 ASCII characters long and must contain at least 3 of the following 4 characters:

- upper case letters
- lower case letters
- numbers
- non-alphanumeric characters

\*Password for project:

\*Password confirmation:

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# Have Your IT Director and Collaborators Identified, Including Contact Information

dbGaP: Authorized Access: Proj X

https://dbgap.ncbi.nlm.nih.gov/aa/wga.cgi?

NCBI Site map | All databases | PubMed | Search

db GaP genotypes and phenotypes [Browse/Search](#) [Authorized Access](#) [Help](#)

Logged in as **Christy Avery** | [Log out](#)

Beacon Data Browser **My Projects** My Requests Downloads Downloaders My Profile

## Project Request

#20018: asdfasdf [+ OMB control number: 0925-0670 Expiration date: 03/31/2019](#)

SO: Jenifer Gwaltney

[Project Details](#) [Choose Datasets](#) [Research Project](#) [Collaborators](#) **IT Director** [Confirm Datasets](#) [Review DUC](#) [Review DUL](#) [Review Applications](#) [Feedback](#)

An information technology (IT) director's (or designee's) contact information is required to ensure data security policies and procedures are in place. This individual must have the authority to vouch for the IT capabilities at your institution.

**IT Director**

Prefix	*First name	Middle name	*Last name	Suffix	
	Donald		Draper		
*Position/Title	Department	*Organization name	Division		
IT Director		UNIV OF NORTH CAROLINA CHAPEL HIL			
*Street1	Street2	*City	State	*ZIP/Postal code	*Country
123 W. Franklin St.		Chapel Hill	NC	27516	US
*E-mail	*Phone	Fax			
ddd@unc.edu	919				

[Back](#) [Return to My Projects](#) [Save](#) [Save and Continue](#)

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[Privacy Notice](#) | [Disclaimer](#) | [Accessibility](#)

# Add Heath Requires IRB Approval Prior to dbGaP Submission

Consent Group	Data Use Limitations	Participants
<a href="#">Add Health: The National Longitudinal Study of Adolescent to Adult Health (Add Health)</a> (phs001367.v1.p1)		
▼ <a href="#">General Research Use (IRB, PUB, GSO)</a> (phs001367.v1.p1.c1), <a href="#">NICHD</a>	Use of the data is limited only by the terms of the model Data Use Certification. Requestor must provide documentation of local IRB approval. Requestor agrees to make results of studies using the data available to the larger scientific community. Use of the data is limited to genetic studies only. <b>This consent group requires IRB approval attachment</b>	9974
<a href="#">Back</a> <a href="#">Return to My Projects</a> <a href="#">Remove Selected</a> <a href="#">Remove Selected and Continue</a>		

- Either expedited or exempt IRB approval is acceptable.

# Publication of Genomic Summary Results

Consent Group: Add Health: The National Longitudinal Study of Adolescent to Adult Health (Add Health) (phs001367.v1.p1)

Data Use Limitations: General Research Use (IRB, PUB, GSO) (phs001367.v1.p1.c1), [NICHD](#)

Participants: 99' 4

Use of the data is limited only by the terms of the model Data Use Certification. Requestor must provide documentation of local IRB approval. Requestor agrees to make results of studies using the data available to the larger scientific community. Use of the data is limited to genetic studies only. . This consent group requires IRB approval attachment

Buttons: Back, Return to My Projects, Remove Selected, Remove Selected and Continue

- Given the sensitivity of Add Health, genomic summary results (GSR) that contain Add Health data should be provided only through controlled-access data access request and review procedures (e.g. through dbGaP).
- For more information, see: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-19-023.html>

# Submit Application!

The screenshot shows a web browser window with the URL <https://dbgap.ncbi.nlm.nih.gov/aa/wga.cgi?>. The page is titled "Project Request" and shows a request for project #20018: asdfasdf, submitted by Jenifer Gwaltney. The page includes navigation tabs for "Project Details", "Choose Datasets", "Research Project", "Collaborators", "IT Director", "Confirm Datasets", "Review DUC", "Review DUL", "Review Applications", and "Feedback". The "Review Applications" tab is currently selected.

**Project Request**  
#20018: asdfasdf  
SQ: Jenifer Gwaltney

OMB control number: 0925-0670 Expiration date: 03/31/2019

**Review and submit data access requests**

The following application is the official request document that will be sent to your signing official (SO). Please note that you **will not be allowed** to change your application while it is being reviewed by the SO. In order to make the changes after you have submitted your application for review you will have to contact your SO with a request to return it for your revision.

After approval by your SO, each application will be sent to the appropriate Data Access Committee (DAC). Multiple DACs may need to evaluate your application.

[Review Complete Application](#)

**Check the "I agree" boxes to provide the required certifications and assurances.**

By signing below, I certify that the statements herein are true, complete, and accurate to the best of my knowledge. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties.

I agree

By signing below, I certify that I have read and agreed to the terms, conditions, and statements in the Data Use Certification(s) for the request dataset(s). I agree to abide by the [Code of Conduct](#).

I agree

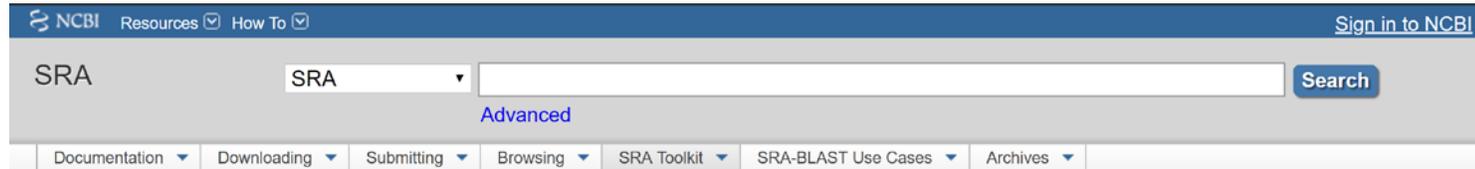
This project currently contains **1 active request** for data access. You can view individual applications and processing statuses in the table below.

**Active (1)**

#	Study, Consent	Status	Expiration	Application
	<a href="#">Add Health: The National Longitudinal Study of Adolescent to Adult Health (Add Health)</a> (phs001367.v1.p1) <a href="#">General Research Use (IRB, PUB, GSO)</a> (phs001367.v1.p1.c1), <a href="#">NICHD</a>	New		<a href="#">view</a>

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# To Download dbGaP data; Download NIH SRA Toolkit



## SRA Toolkit download

### NCBI SRA Toolkit latest release compiled binaries and md5 checksums

- [CentOS Linux 64 bit architecture](#)
- [Ubuntu Linux 64 bit architecture](#)
- [MacOS 64 bit architecture](#)
- [MS Windows 64 bit architecture](#)
- [vdb-view Windows Installer](#) (soon to be deprecated)
- [md5 checksums](#) (computed using md5sum -b)

### NCBI Decryption Tools latest release binaries and md5 checksums

- [CentOS Linux 64 bit architecture](#)
- [CentOS Linux 32 bit architecture](#)
- [Ubuntu Linux 64 bit architecture](#)
- [Ubuntu Linux 32 bit architecture](#)
- [MacOS 64 bit architecture](#)
- [MacOS 32 bit architecture](#)
- [MS Windows 64 bit architecture](#)
- [MS Windows 32 bit architecture](#)
- [md5 checksums](#) (computed using md5sum -b)

## Documentation

- [SRA Overview](#)
- [SRA Fact Sheet \(.pdf\)](#)
- [SRA database growth](#)
- [File Format Guide](#)
- [Search in SRA](#)

## Downloading SRA data

- [Download Guide](#)
- [dbGaP download guide!](#)

## Submitting Data to SRA

### General

- [Quick Start](#)
- [BioProject & BioSample](#)
- [SRA Metadata Overview](#)
- [SRA File Upload](#)
- [Frequently Asked Quest](#)

## SRA Submission Ports

Navigate to <https://www.ncbi.nlm.nih.gov/sra/docs/toolkitsoft/>  
Download relevant architecture (CentOS or Ubuntu Linux)  
`tar -xvzf /path/to/file/sratoolkit.current-ubuntu64.tar.gz`

# Select files on dbGaP

- Navigate to dbGaP <https://dbgap.ncbi.nlm.nih.gov/aa/wga.cgi?page=login> and login using the eRA account credentials
- Click on “My Requests” tab. The list of Approved Requests is under “Approved” sub-tab. (slide 24)
- Find the table row of approved dataset (phs001367.v1.p1), click on the link named “Request Files” in the “Actions” column.
- On the “Access Request” page, go to the “Phenotype and Genotype files” sub-tab and click on the “dbGaP File Selector” link.
- Add/remove files using the facets listed in the left panel facet manager. From the right panel file list, select/unselect files by checking/unchecking checkboxes in front of the file names. (slide 25)
- Once the files are selected (checked), click on the “Cart File” button (on the upper part of the page) and save the cart file (.kart).

# dbGaP Approved Requests

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Logged in as **Kathleen Harris** | [Log out](#)

[Browse/Search](#) [Authorized Access](#) [Help](#)

[My Submitted Data](#) [Data Browser](#) [My Projects](#) [My Requests](#) [Downloaders](#) [My Profile](#)

## Request List

#	Study, Consent	Status	Expiration	Actions
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# dbGaP File Selector

- Facets
- Content type
  - File name
  - Size
  - Data category
  - Embargo date
  - File accession
  - Genotype platform

Hide common fields

Consent:	GRU-IRB-PUB-GSO
Downloaded:	no
Release date:	2018-09-12
Study accession:	phs001367.v1.p1

	Files	Size	Download
Total:	25	637.95 Gb	<a href="#">Files Table</a>
Selected:			<a href="#">Cart File</a>

25 Files found

<input type="checkbox"/>	Content type	File name	Size	Description	Data category	Embargo date	File accession	Genotype platform
<input type="checkbox"/>	Use contents	Study_Report.phs001367.AddHealth.v1.p1.MULTI.pdf	55.2 kb	<a href="#">Master stu...d consent category).</a>	StudyMeta	No Embargo	phs001367.v1.p1	N/A
<input type="checkbox"/>	Use contents	Release_Notes.phs001367.AddHealth.v1.p1.MULTI.pdf	144.1 kb	<a href="#">Release no...wnload component set</a>	StudyMeta	No Embargo	phs001367.v1.p1	N/A
<input type="checkbox"/>	Use contents	<a href="#">manifest_p....GRU-IRB-PUB-GSO.pdf</a>	41.8 kb	<a href="#">Release no...wnload component set</a>	StudyMeta	No Embargo	phs001367.v1.p1	N/A
<input type="checkbox"/>	Phenotype data-dictionary	<a href="#">phs001367....subject.data_dict.xml</a>	734b	<a href="#">pht008245....ataset pht008245.v1.</a>	Phenotype	2018-09-12	phs001367.v1.p1	N/A
<input type="checkbox"/>	Phenotype individual-auxiliary	<a href="#">phs001367....Subject.MULTI.txt.gz</a>	67.2 kb	<a href="#">pht008245....onsent - Information</a>	Phenotype	2018-09-12	pht008245.v1.p1	N/A
<input type="checkbox"/>	Phenotype variable-report	<a href="#">phs001367....bject.var_report.xml</a>	2.0 kb	<a href="#">pht008245....ataset pht008245.v1.</a>	Phenotype	2018-09-12	pht008245.v1.p1	N/A
<input type="checkbox"/>	Phenotype data-dictionary	<a href="#">phs001367....digree.data_dict.xml</a>	1.1 kb	<a href="#">pht008246....ataset pht008246.v1.</a>	Phenotype	2018-09-12	phs001367.v1.p1	N/A
<input type="checkbox"/>	Phenotype individual-pedigree	<a href="#">phs001367....edigree.MULTI.txt.gz</a>	29.5 kb	<a href="#">pht008246.v1: Pedigree Information</a>	Phenotype	2018-09-12	pht008246.v1.p1	N/A
<input type="checkbox"/>	Phenotype variable-report	<a href="#">phs001367....igree.var_report.xml</a>	4.3 kb	<a href="#">pht008246....ataset pht008246.v1.</a>	Phenotype	2018-09-12	pht008246.v1.p1	N/A
<input type="checkbox"/>	Phenotype data-dictionary	<a href="#">phs001367....Sample.data_dict.xml</a>	569b	<a href="#">pht008247....ataset pht008247.v1.</a>	Phenotype	2018-09-12	phs001367.v1.p1	N/A
<input type="checkbox"/>	Phenotype individual-auxiliary	<a href="#">phs001367...._Sample.MULTI.txt.gz</a>	284.1 kb	<a href="#">pht008247....mple Use information</a>	Phenotype	2018-09-12	pht008247.v1.p1	N/A
<input type="checkbox"/>	Phenotype variable-report	<a href="#">phs001367....ample.var_report.xml</a>	2.2 kb	<a href="#">pht008247....ataset pht008247.v1.</a>	Phenotype	2018-09-12	pht008247.v1.p1	N/A
<input type="checkbox"/>	Phenotype data-dictionary	<a href="#">phs001367....otypes.data_dict.xml</a>	1.4 kb	<a href="#">pht008248....ataset pht008248.v1.</a>	Phenotype	2018-09-12	phs001367.v1.p1	N/A
<input type="checkbox"/>	Phenotype variable-report	<a href="#">phs001367....types.var_report.xml</a>	9.4 kb	<a href="#">pht008248....ataset pht008248.v1.</a>	Phenotype	2018-09-12	pht008248.v1.p1	N/A
<input type="checkbox"/>	Phenotype individual-traits	<a href="#">phs001367....U-IRB-PUB-GSO.txt.gz</a>	170.9 kb	<a href="#">pht008248.... height information.</a>	Phenotype	2018-09-12	pht008248.v1.p1	N/A
<input type="checkbox"/>	Phenotype data-dictionary	<a href="#">phs001367....ibutes.data_dict.xml</a>	930b	<a href="#">pht008249....ataset pht008249.v1.</a>	Phenotype	2018-09-12	phs001367.v1.p1	N/A
<input type="checkbox"/>	Phenotype variable-report	<a href="#">phs001367....butes.var_report.xml</a>	3.7 kb	<a href="#">pht008249....ataset pht008249.v1.</a>	Phenotype	2018-09-12	pht008249.v1.p1	N/A
<input type="checkbox"/>	Phenotype individual-traits	<a href="#">phs001367....U-IRB-PUB-GSO.txt.gz</a>	70.3 kb	<a href="#">pht008249.... source of samples.</a>	Phenotype	2018-09-12	pht008249.v1.p1	N/A
<input type="checkbox"/>	Genotype sample-information	phg001069.v1.AddHealth.sample-info.MULTI.tar.gz	247.2 kb	<a href="#">Informatio...files in the release</a>	Genotype	2018-09-12	phg001069.v1	NULL
<input type="checkbox"/>	Genotype calls-matrix-format	<a href="#">phg001069....U-IRB-PUB-GSO.tar.gz</a>	846.3 Mb	<a href="#">Set of tex...a particular consent</a>	Genotype	2018-09-12	phg001069.v1	NULL
<input type="checkbox"/>	Genotype qc	<a href="#">phg001069...._v1-0_H.MULTI.tar.gz</a>	6.4 Mb	<a href="#">Marker and...requnecy, and others</a>	Genotype	2018-09-12	phg001069.v1	NULL
<input type="checkbox"/>	Genotype imputed-data	<a href="#">phg001099....-PUB-GSO.set1.tar.gz</a>	518.5 Gb	<a href="#">Imputed ge...me and subject group</a>	Genotype	2018-09-12	phg001099.v1	NULL
<input type="checkbox"/>	Genotype imputed-data	<a href="#">phg001099....-PUB-GSO.set2.tar.gz</a>	118.7 Gb	<a href="#">Imputed ge...me and subject group</a>	Genotype	2018-09-12	phg001099.v1	NULL
<input type="checkbox"/>	Genotype sample-information	phg001099.v1.AddHealth.sample-info.MULTI.tar.gz	2.4 Mb	<a href="#">Informatio...files in the release</a>	Genotype	2018-09-12	phg001099.v1	NULL

# Create directory for results

- Naming convention isn't optional, requires lower case 'ncbi'
- Create a directory titled 'ncbi' at root
- *cd ~; mkdir ncbi; cd ncbi*
- Move .kart file into ncbi directory ie. *mv cart\_prj19687\_201902081009 ./*

# prefetch dbGaP files

- Use the 'prefetch' utility to download the data files specified by the cart file.
- */path-to-sratoolkit-install-dir/bin/prefetch -t ascp -a cart\_prj19687\_201902081009*
- Depending on the size, you might need to specify '*-max-size 100000000*'
- This will generate a directory at `~/ncbi/dbGaP-19687` which contains files, sra, wgs, nannot, and refseq
- All data and metadata will be in `~/ncbi/dbGaP-19687/files`
- All files will be encrypted and end `*.ncbi_enc`

# Decrypt files with vdb-config

- Use vdb-config tool to decrypt them
- *ncbi/dbGaP\_19687/files\$ /path/to/sratoolkit.2.9.4-centos\_linux64/bin/vdb-config -i*
- This will open an interactive vdb-config session. (slide 29)
- Import your repository key (NGC file), box 4 (slide 30)
- Select your folder eg. ncbi/dbGaP-19687, tab down to 'change' (slide 31)
- Click save, box 6
- Click exit, box 7

# vdb-config interface

vdb-config

<input checked="" type="checkbox"/> Enable Remote Access (1)	<input type="checkbox"/> Save (6)	<input type="checkbox"/> Exit (7)
<input checked="" type="checkbox"/> Enable Local File Caching (2)	<input type="checkbox"/> Reload (8)	
<input type="checkbox"/> Use Proxy	<input type="checkbox"/> Change	<input type="text"/>
<input type="checkbox"/> Import Repository Key (4)		<input type="checkbox"/> Set Default Import Path (5)
Workspace Name		
Public	<input type="checkbox"/> Change	<input type="text" value="/home/joeuser/ncbi/public"/>

Press the number in (X) as a shortcut

# Assign repository key

The screenshot shows a terminal window with a blue border and a yellow-green background. At the top, there are two buttons: "[X] Enable Remote Access (1)" on the left and "[ Save (6) ] [ Exit (7) ]" on the right. Below these, a prompt "[X] select file" is visible. The main area of the terminal is divided into two sections. The top section is titled "directories:" and contains a list of entries: "[..]", "files", and "sratoolkit.2.9.4-centos\_linux64". The bottom section is titled "files:" and contains a list of entries: "prj\_19687.ngc". At the bottom of the terminal window, there are two buttons: "[ OK ]" and "[ Cancel (ESC-ESC) ]".

[X] Enable Remote Access (1) [ Save (6) ] [ Exit (7) ]

[X] select file

/ifs/sec/cpc/addhealth/users/belevitt/exome

directories:

[..]

files

sratoolkit.2.9.4-centos\_linux64

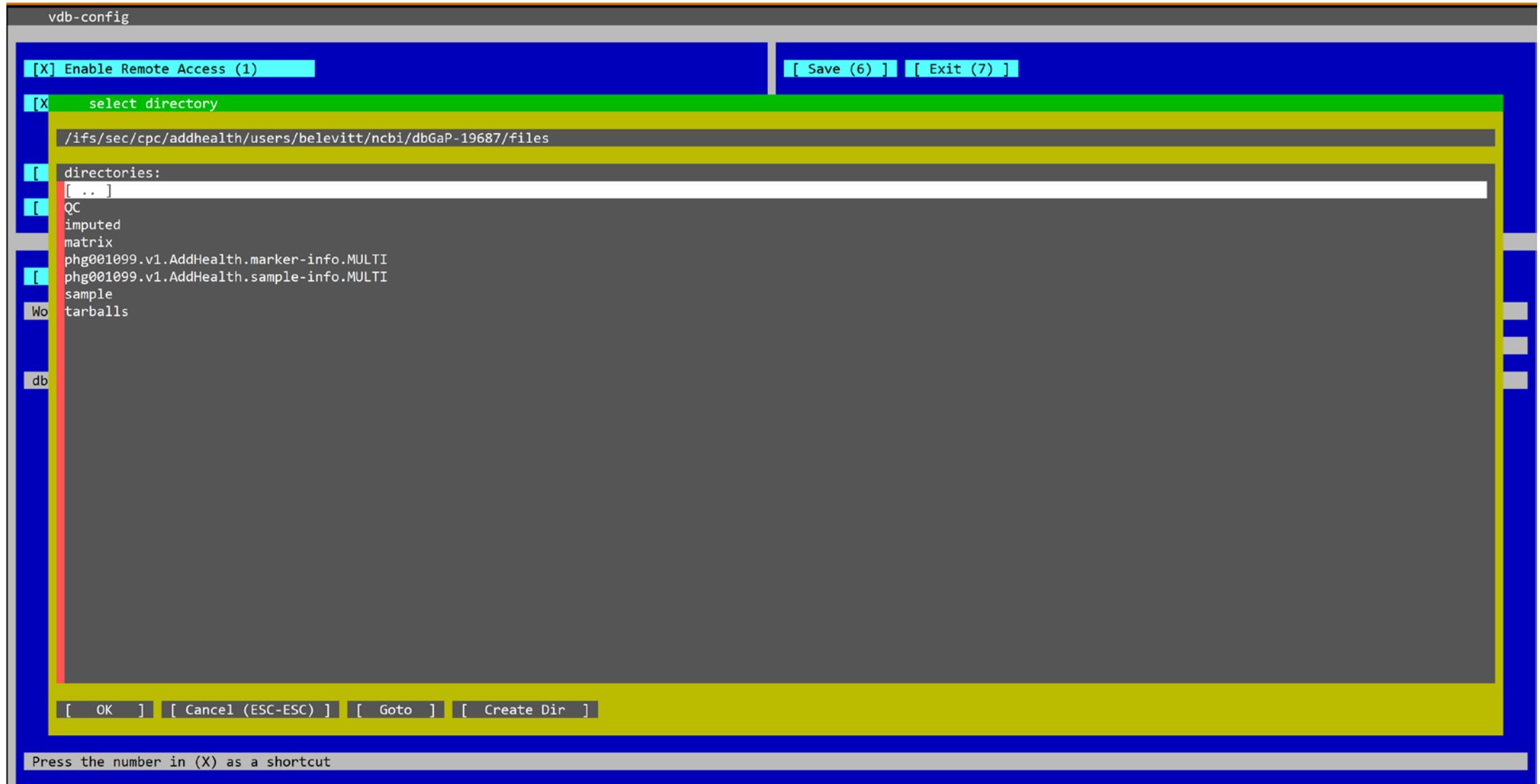
files:

prj\_19687.ngc

[ OK ] [ Cancel (ESC-ESC) ]

Press the number in (X) as a shortcut

# Decrypt files



# Additional resources for downloading dbGaP data

<https://www.ncbi.nlm.nih.gov/books/NBK36439/> GaP FAQ Archive: Downloading Data

<https://dbgap.ncbi.nlm.nih.gov/aa/wga.cgi?page=login> dbGaP authorized access point

<https://www.biostars.org/p/316506/> option for prefetch large files

<https://github.com/ncbi/sra-tools/wiki/Toolkit-Configuration> how to navigate the vdb-config utility

# Additional Add Health OMICs Resources

- Sign up for the addhealthomics listserv. To subscribe/join:
  1. Send an email to [subscribe-addhealthomics@listserv.unc.edu](mailto:subscribe-addhealthomics@listserv.unc.edu) with no message body
  2. Wait for addhealthomics confirmation email
  3. Click the confirm link the email
- **Future resources** that will aid users in accessing, understanding, analyzing, and interpreting Add Health genomics data, prioritizing GWAS data, will be posted at:
  - <https://www.biostars.org/t/addhealthomics/>
  - <https://www.cpc.unc.edu/projects/addhealth/documentation/omics>